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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,911	07/21/2003	Ming-Song Huang	ET02-005	5362

7590 10/04/2005

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EXAMINER
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KOVALICK, VINCENT E

ART UNIT	PAPER NUMBER
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2677

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/623,911

Applicant(s)

HUANG, MING-SONG

Examiner

Vincent E. Kovalick

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 9-21 is/are allowed.  
6) ☒ Claim(s) 1,4,7 and 8 is/are rejected.  
7) ☒ Claim(s) 2,3,5 and 6 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 21 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) \*  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/27/03.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

1. This Office Action is in response to Applicant's Patent Application, Serial No. 10/623,911, with a File Date of July 21, 2003.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. (Pub. No. US 2005/0024382) taken with Brokenshire et al. (Pub. No. US 2002/0158885) in view of Maa (USP 5,818,935).

Relative to claim 1, Ho et al. **teaches** an apparatus for color conversion and method thereof (pg. 1, paras. 0011 – 0014); Ho et al. further **teaches** a display controller for providing a luminance value to a display comprising: an original gamma correction mapping table containing entries describing a default luminance value to be provided said display for a magnitude of a video input signal; a gamma correction transform circuit in communication with the original gamma correction mapping table to receive said entries and connected to receive a contrast signal and a brightness signal and from said contrast signal and brightness signal transform said entries to transformed luminance values (col. 3, para. 0029) and Fig. 6).

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Ho et al. **does not teach** a transformed gamma correction mapping table in communication with the gamma correction transform circuit to receive the transformed luminance values, said gamma correction mapping table connected to receive a video signal whereby said video signal provides a pointer to said luminance values.

Ho et al. teaches an apparatus for color conversion.

Brokenshire et al. **teaches** a method and apparatus for generating gamma corrected antialiased lines (pa. 1, para. 0008); Brokenshire et al. further **teaches** a transformed gamma correction mapping table in communication with the gamma correction transform circuit to receive the transformed luminance values, said gamma correction mapping table connected to receive a video signal (pg. 4, para (0053).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Ho. et al. the feature as taught by Brokenshire et al. in order to provide the means to provide the gamma corrected luminance values to the video output signals.

Ho et al. taken with Brokenshire et al. **does not teach** a video signal providing pointers to table values.

Ho et al. taken with Brokenshire et al teaches gamma corrected luminance values signals for inputs to an image display.

Maa **teaches** an enhanced video system (col. 2, lines 47-67 and col. 3, lines 1-59); Maa further **teaches** a video signal providing pointers to look-up table values; it being understood that this feature would be adaptable to pointing relative to a gamma correction tables.

It would have been obvious to a person of ordinary skill in the art at the time of the invention

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to provide to the device as taught by Ho. et al. taken with Brokenshire et al. the feature as taught by Maa in order to facilitate modifying the output video signal with the correct gamma correction values.

Regarding claim 7 Ho et al. further **teaches** the said display controller wherein the original gamma correction mapping table is digital data stored in a memory (pa. 3, para. 0029 and Fig. 6).

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. taken with Brokenshire et al in view of Maa as applied to claim 1 in item 3 hereinabove, and further in view of Yamazaki et al. (USP 6,246,070).

Regarding claim 4, Ho et al. taken with Brokenshire et al in view of Maa **does not teach** the said display controller wherein the gamma correction transform circuit is a microcontroller.

Yamazaki et al. **teaches** semiconductor devices provided with semiconductor circuit made from semiconductor elements (col. 2, lines 55-67 and col. 3, lines 1-60); Yamazaki et al. further **teaches** the gamma correction transform circuit is a microcontroller (col. 20, lines 55-64).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Ho. et al. taken with Brokenshire et al. in view of Maa the feature as taught by Yamazaki et al. in order to provide in the system the added flexibility of having a microcontroller perform addition functions in addition to functions related to the gamma correction transform functions

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. taken with Brokenshire et al in view of Maa as applied to claim 7 in item 4 hereinabove, and further in view of Endo et al. (Pub. No. US 2001/0015774).

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Regarding claim 8, Ho et al. taken with Brokenshire et al in view of Maa **does not teach** the said display controller wherein the transformed gamma correction mapping table is digital data stored in the memory.

Ho et al. taken with Brokenshire et al in view of Maa taken with Yamazaki et al. teaches gamma corrected luminance values signals for inputs to an image display.

Endo et al. **teaches** display apparatus and method for gamma correction (pg. 2, paras. 0020-0022); Endo et al. further **teaches** the said display controller wherein the transformed gamma correction mapping table is digital data stored in the memory (pg. 1, para. 0011 and Fig. 2).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Ho. et al. taken with Brokenshire et al. in view of Maa taken with Yamazaki et al. the feature as taught by Endo et al. in order to keep all the data being processed by the gamma correction transform circuit in the same digital format.

#### *Allowable Subject Matter*

6. Claims 2-3 and 5-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Relative to claims 1 and 5, the major difference between the teachings of the prior art of record (over Pub. No. US 2005/0024382, o et al.; Pub. No. US 2002/0158885, Brokenshire et al. and USP 5,818,935, Maa) and that of the instant invention is that said prior art of record **does not teach** a display controller wherein the gamma correction transform circuit executes the function:

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$G_{\text{new}}(i) = G_{\text{orig}}(i \cdot a) + b$  where  $i$  is a counter representing potential magnitude values of the video signal,  $G_{\text{ner}}(i)$  is the transformed value of the luminance value for an  $i$ th magnitude,  $a$  is a magnitude of the contest signal, and  $b$  is a magnitude of the brightness signal.

Regarding claims 3 and 6, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** a display controller wherein the gamma correction transform circuit executes the function:

$G_{\text{new}}(i) = G_{\text{orig}}(C_i)$  where  $C_i = b$   $i=0$  and where  $C_i = C_{i-1} + a$   $i > 0$ ;  $C_i$  is a pointing variable to the luminance values in the original gamma correction mapping table,  $i$  is a counter representing potential magnitude values of the video signal;  $a$  is magnitude of the contrast signal, and  $b$  is magnitude of the brightness signal.

7. Claims 9-21 are allowed.

8. The following is an examiner's statement of reasons for allowance:

Regarding claims 9, 12, 13 and 18, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** a display control system for providing luminance values to a display wherein; if the new contrast signal is equivalent to the default contrast signal and the brightness signal is equivalent to the default brightness signal, designating the default gamma correction mapping table for determining a luminance value for said display; if the new contrast signal is not equivalent to the default contrast signal and/or the brightness signal is not equivalent to the default brightness signal, transforming the default gamma correction mapping table as a function of the contrast signal and the brightness signal; if the new contrast signal is equivalent to the default contrast signal and the brightness signal is equivalent to the default brightness signal, mapping the video

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signal to determine the luminance level from the default gamma correction mapping table; if the new contrast signal is not equivalent to the default contrast signal and/or the brightness signal is not equivalent to the default brightness signal, mapping the video signal to determine the luminance level from the transformed gamma correction mapping table.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U. S. Patent No.	5,282,036	Worley Jr. et al.
U. S. Patent No.	4,769,703	Osborne et al.
Pub. No.	US 2003/0128299	Coleman et al.



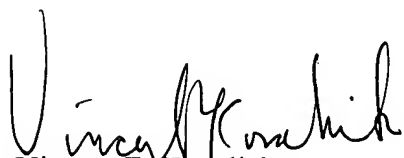
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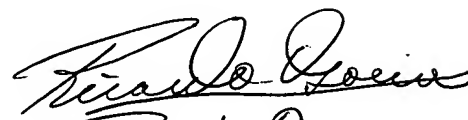
***To Respond***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent E. Kovalick whose telephone number is 571-272-7669. The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Vincent E. Kovalick  
September 21, 2005

  
Ricardo Osorio  
PRIMARY EXAMINER